On the Transglycosidation relating to Riboflavinn by Escherichia coli. (I) : Formation of Riboflavinyl Glucoside

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On the Transglycosidation relating to Riboflavinn by *Escherichia coli.* (I)

Formation of Riboflavinyl Glucoside

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The Journal of Vitaminology, **3**, 264 (1957)

Riboflavinyl glucoside has been isolated from reaction mixture composed of riboflavin, maltose and the cell suspension of *Escherichia coli.*

The suitable conditions and the effects of several substances on the formation of riboflavinyl glucoside were studied, and it is ascertained that riboflavin plays the role of specific acceptor of transglycosidation, and concluded that the interaction of the enzyme on isoalloxazine ring of riboflavin molecule would take place in the first step of the reaction.

Thus the authors suggest that riboflavin reveals a new biochemical significance in carbohydrate metabolism.

Microbiological Assay of Vitamins and Amino Acids by One-dimentional Diffusion Method

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Journal of the Pharmaceutical Society of Japan

(*Yakugaku Zasshi*), **77**, 1159 (1957)

We designed the one-dimentional diffusion method for microbiological assay of vitamins and amino acids. The agar synthetic medium containing triphenyltetrazoliumchloride (TTC) (50mg/100cc. of medium) and test organisms for example, *Lactobacillus arabinosus* 17-5 is poured into the test tube which is 75 mm in hight and 5 mm in diameter. After the medium solidified, about 0.1 ml of sample were over it. Following incubation about 12 hours, red zone of reduced TTC were observed. This red zone is proportional to logarithms of concentration of amino acids and vitamins. Using *Lactobacillus arabinosus* 17-5, the assay range is as following : biotin 1~100 mγ/cc., pantothenic acid and nicotinic acid 0.1~100γ/cc., DL-phenylalanine and DL-methionine 15~1000γ/cc., L-leucine 60~1000γ/cc. This method is distinguished with large range of determination and small amount of medium, still more convenient for routine assay